

WHAT IS CLAIMED IS:

1. A solar powered energy system comprising:
  - a framework having a pair of opposite side sections joined at their distal ends respectively by a pair of end sections;
  - a central cavity defined between said side sections and said end sections;
  - a fluid conducting means mounted on said framework and occupying said central cavity;
  - a solar collector mounted on said framework in fixed, parallel, spaced-apart relationship;
  - a blackened layer disposed in said central cavity between said fluid conducting means and said solar collector;
  - an insulation layer disposed in said central cavity engaging said fluid conducting means on a side of said fluid conducting means opposite to its side in said spaced-apart relationship with said solar collector; and
  - said side sections and said end sections of said framework provided with a plurality of receptacles opening into said central cavity for insertably receiving and retaining said solar collector, said blackened layer, said fluid conducting means and said insulation layer so as to provide a unitary construction.

2. The system defined in Claim 1 wherein:

said fluid conducting means includes a pair of sheets with a first sheet of said pair having a plurality of cup-like mounds arranged in fixed, spaced-apart relationship and a second sheet of said pair of sheets being a flat sheet secured to said first sheet; and

said pair of sheets defining a tortuous fluid conductive path between opposing opposite surfaces of said pair of sheets.

3. The system defined in Claim 2 including:

an outer glass panel closing said central cavity on a top of said framework and a bottom sheet adjacent said insulation layer on a bottom of said framework.

4. The system defined in Claim 3 including:

an encapsulant enclosing said solar collector.

5. The system defined in Claim 4 including:

a transparent film carried on said solar collector facing said top panel.

6. A solar energy conversion apparatus comprising:  
a framework;  
a solar collector having an array of spaced-apart solar cells electrically coupled together;  
a fluid conducting means mounted in said framework immediately adjacent said solar collector;  
said fluid conducting means comprising a pair of sheets secured together and having a fluid path residing therebetween; and  
said fluid path defined between a plurality of mounds provided in a first sheet of said pair of sheets and a second sheet of said pair of sheets engaged with said plurality of mounds.

7. The apparatus defined in Claim 6 including:  
a fluid input conduit attached to said framework in fluid communication with said fluid path; and  
a fluid output conduit attached to said framework in fluid communication with said fluid path in spaced-apart relationship with respect to said fluid input conduit.

8. The apparatus defined in Claim 7 wherein:  
said solar collector and said fluid conducting means are flat and reside immediately adjacent to each other, as a unit, and as a unit have a peripheral edge marginal region; and  
said framework having a central opening occupied by said unit and further having a receptacle for insertably receiving and retaining said peripheral edge marginal region of said unit.

9. The apparatus defined in Claim 8 including:
- a blackened layer disposed between said solar collector and said fluid conducting means; and
  - an insulation layer residing against said fluid conducting means.
10. The apparatus defined in Claim 9 including:
- at least one glass panel mounted on said framework above said solar collector serving as a top panel;
  - said framework having at least three receptacles for receiving and retaining peripheral edge marginal regions of said glass panel, said solar collector and said insulation respectively.
11. The apparatus defined in Claim 10 including;
- a transparent film secured to said solar collector in fixed, spaced-apart relationship with respect to said glass panel.